

<b>Notice of Allowability</b>	Application No.	Applicant(s)
	10/816,432	RAVKIN ET AL.
	Examiner	Art Unit
	Sharidan Carrillo	1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to After-Final filed 11/21/2005.
2.  The allowed claim(s) is/are 1-10, 12-16, 24 and 26-28.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 09/22/2005
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

  
**SHARIDAN CARRILLO**  
**PRIMARY EXAMINER**

## **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Ms. Yadegar on 12/8/2005.

The application has been amended as follows:

***Claim 10:***

Line 4, delete "and"

Line 8, after "chemistry" insert the following:

--; and

scanning the front surface of the semiconductor substrate by moving the front meniscus along the front surface of the semiconductor substrate—

***Cancel claims 11 and 25.***

***Claims 12 and 13:*** line 1, delete "(Previously Presented)" and insert -(Currently Amended)—

***Claim 24:***

Line 4, delete "and"

Line 11, after "acid" insert the following:

--; and

scanning the front surface of the semiconductor substrate by moving the front meniscus along the front surface of the semiconductor substrate—

The following is an examiner's statement of reasons for allowance: The prior art fails to teach or suggest the limitations of brush scrubbing the back surface of the semiconductor substrate and forming a front and back menisci after the brush scrubbing of the back surface, followed by scanning the front and back surface of the semiconductor substrate. The closest prior art is Svirchevski (2004/0200409) which teaches scrubbing both sides of the wafer, followed by forming a meniscus on the surface of the wafer by spraying a fluid unto the wafer surface and then directing a vapor to the meniscus, thereby drying the wafer surface. Svirchevski fails to teach the limitation of scanning the surface of the semiconductor. The other closest prior art are that of Woods (US2004/0060573), Mikhaylichenko et al. (6951042) and Boyd et al. (US2005/0132515). Mikhaylichenko, teaches scrubbing both sides of the wafer and applying a fluid medium to saturate the brush and form a meniscus on the wafer surface. Mikhaylichenko does not specifically teach forming a meniscus after completion of brush scrubbing of the semiconductor. Woods teaches brush scrubbing of the wafer surface followed by cleaning and drying by forming a meniscus. Woods does not specially teach forming a) a front and back fluid menisci or b) front meniscus after brush scrubbing of the back surface. Boyd et al. teach scrubbing both sides of the wafer surface and further teaches applying a meniscus prior to scrubbing the wafer surface (Fig. 8a). Boyd does not teach forming a front and back fluid menisci or forming a front meniscus after completion of the brush scrubbing of the back surface of the semiconductor. The examiner indicated that the references of Mikhaylichenko, Woods, and Boyd et al. would be used to reject the claims under 35 U.S.C. 103 ©. In

order to disqualify these three patents as prior art, applicant submitted a written statement establishing that the prior art and the claimed invention were commonly owned at the time the invention was made. Therefore, these references are no longer considered as prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on M-W 6:30-4:00pm, alternating Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharidan Carrillo  
Primary Examiner  
Art Unit 1746

bsc



SHARIDAN CARRILLO  
PRIMARY EXAMINER

## FACSIMILE COVER SHEET



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CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence and the papers referred to herein as attached are being transmitted to the United States Patent and Trademark Office via facsimile to (571) 273-1297, Attn: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on December 12, 2005.

Signed:

Fariba Yadegar-Bandari

To: United States Patent & Trademark Office  
Group Art Unit: 1746  
Examiner: Bibi S. Carrillo

Re: <b>COMMUNICATION TO USPTO IN RESPONSE TO ARGUMENTS</b>	From: Martine Penilla & Gencarella, LLP Fariba Yadegar-Bandari, Esq.
Pages including coversheet: 03	Phone No.: (408) 774-6913 Fax No.: (408) 749-6901
FAX No.: (571) 273-1297 Phone No.: (571) 272-1297	

**URGENT**

Application No. : 10/816,432  
Applicant : Ravkin et al.  
Filed : March 31, 2004  
Title : SUBSTRATE BRUSH SCRUBBING AND PROXIMITY CLEANING-DRYING SEQUENCE USING COMPATIBLE CHEMISTRIES, AND METHOD, APPARATUS, AND SYSTEM FOR IMPLEMENTING THE SAME  
Examiner : Bibi S. Carrillo  
Atty. Docket No. : LAM2P463  
Date : December 12, 2005

Attached to this facsimile coversheet are the following documents:

- Communication to USPTO in Response to Arguments, dated December 12, 2005.

Fariba Yadegar-Bandari, Esq.

Please acknowledge receipt of this communication promptly via facsimile to (408) 749-6901, and direct all confirmations and communications directly to Courtney F. Yadegar.

RESPONSE UNDER 37 C.F.R. § 1.116  
EXPEDITED PROCEDURE  
EXAMINING GROUP 1746  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of )  
Ravkin et al. )  
Application No. 10/816,432 )  
Filed: March 31, 2004 )  
For: SUBSTRATE BRUSH SCRUBBING AND )  
PROXIMITY CLEANING-DRYING )  
SEQUENCE USING COMPATIBLE )  
CHEMISTRIES, AND METHOD, )  
APPARATUS, AND SYSTEM FOR )  
IMPLEMENTING THE SAME )

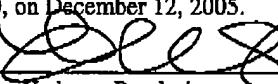
) Examiner: Bibi S. Carrillo

) Art Unit: 1746

) Docket No. LAM2P463

) Date: December 12, 2005

**CERTIFICATE OF FACSIMILE**  
I hereby certify that this correspondence and the papers referred to herein as attached  
are being transmitted to the United States Patent and Trademark Office via facsimile  
to (571) 273-1297, Attn: Commissioner for Patents, P.O. Box 1450, Alexandria,  
VA 22313-1450, on December 12, 2005.

Signed: 

Fariba Yadegar-Bandari

**COMMUNICATION TO USPTO IN RESPONSE TO ARGUMENTS**

Mail Stop - AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The subject paper is in response to the undersigned responsible attorney telephonic interviews of Examiner Bibi S. Carrillo on December 7, 2005, December 8, 2005, and December 12, 2005. During the telephonic interviews, the undersigned was advised by Examiner Carrillo that the United States Patent No. 6,951,042 to Mikhaylichenko et al. (Mikhaylichenko) and U.S. Publication No.: 2005/0132515 to Boyd et al. (Boyd) can be considered as possible prior art, and as such, can be used to reject claims 10 and 24 of the

Appl. No. 10/816,432

Amendment, Dated December 12, 2005

Reply to Telephonic Conferences with the Examiner on December 7, 2005, December 8, 2005, and December 12, 2005

subject application under 35 U.S.C. section 103(c). The undersigned was further advised by Examiner Carrillo that the U.S. Publication No.: 2004/0060573 to Woods can also be considered as possible prior art, and as such, can be used to reject claims 1, 10, and 24 under 35 U.S.C. section 103(c).

It is respectfully submitted that Mikhaylichenko, Boyd, Woods, and the subject application were, at the time the subject invention was made, subject to an obligation of assignment to the same person or organization, namely, Lam Research Corporation. Accordingly, Mikhaylichenko, Boyd, and Woods do not qualify as prior art under 35 U.S.C. § 103 (c). *See MPEP §§ 706.02(l) and 2146.* Therefore, the Applicants kindly request that Mikhaylichenko, Boyd, and Woods be withdrawn as references.

In view of the foregoing, the Applicants respectfully submit that all the pending claims are in condition for allowance. Accordingly, a Notice of Allowance is respectfully requested. If the Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 774-6913. If any additional fees are due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. LAM2P463).

Respectfully submitted,  
MARTINE PENILLA & GENCARELLA, LLP  
  
Fariba Yadegar-Bandari, Esq.  
Reg. No. 53,805

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